

False-Positive FDG-PET and Bronchial Anthracofibrosis

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A 73-year-old woman presented to our department with a cough for 2 months. She was a housewife and had no history of smoking or tuberculosis, but she did have a history of significant exposure to biomass because she burned firewood. Chest radiograph and chest computed tomography showed a 2.5-cm-sized lung nodule at the left upper lung and percutaneous needle biopsy was performed. Pathologic findings suggested a pulmonary adenocarcinoma. 2-[18F] fluoro-2-deoxy-D-glucose (FDG)-positron emission tomography (PET) scan showed an enlarged 1.3-cm-sized 4R LN (right lower paratracheal lymph node) with 4.9 standardized uptake value (Fig. 1A). Endobronchial ultrasound-guided transbronchial needle aspiration was performed at 4R LN for a mediastinal staging. Bronchial anthracofibrosis was observed during bronchoscopy (Fig. 1B) and pigmentation of the aspirated material was observed macroscopically during endobronchial ultrasound-guided transbronchial needle aspiration. Left upper lobectomy was performed, and 4R LN was confirmed as a reactive LN with anthracosis on the resected lung specimen.

Bronchial anthracofibrosis (BAF) is a bronchoscopically visible anthracotic pigmentation associated with the narrowing or obliteration of the bronchi. BAF was previously thought to be associated with active or old tuberculosis infection, but it is now believed to be associated with chronic biomass-fuel smoke exposure.¹ Mediastinal lymphadenopathy with calcification is common in BAF.¹ False-positive PET with FDG as a tracer uptake in anthracosis often mimics metastatic lymphadenopathy seen in lung cancer.² In conclusion, if BAF is found on bronchoscopy, PET scans tend to be a false-positive because of anthracosis.

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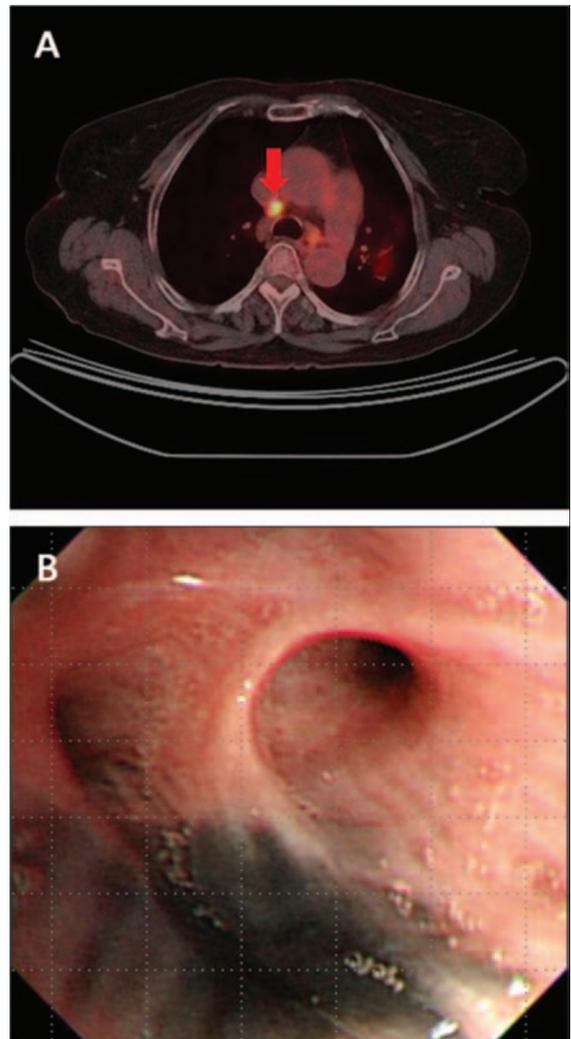


FIGURE 1. A, FDG-positive emission tomography scan showing enlarged 4R LN with positive uptake. B, Bronchial anthracofibrosis of right upper lobar bronchus during bronchoscopy.

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Disclosure: The authors declare no conflict of interest.

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ISSN: 1556-0864/12/0709-1474